

**I CLAIM:**

1. A method for providing electronically mailable pre-paid call credits, comprising:  
  
receiving from a customer at an application server via a data network, a purchase order of a specified purchase value for the pre-paid call credits;  
  
collecting and verifying payment information to collect payment for the purchase value;  
  
issuing at the application server an electronic certificate for the purchase value of the call credits, the electronic certificate including information respecting at least the purchase value, an unique identifier for identifying the purchase order and an email address of a recipient of the call credits designated by the customer in the purchase order;  
  
storing the information in a database; and  
  
sending a copy of the electronic certificate to the recipient via email using the email address.
2. A method as claimed in claim 1 wherein the electronic certificate includes an icon used for initiating calls to be charged against the call credits associated with the electronic certificate.
3. A method as claimed in claim 2 wherein the customer specifies at least one party which may be called using the electronic certificate and the use of the

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electronic certificate is restricted to calls made to the at least one party.

4. A method as claimed in claim 3 wherein the at least one party is the customer.
5. A method as claimed in claim 3 wherein the at least one party is a person other than the customer.
6. A method as claimed in claim 1 wherein the electronic certificate is associated with a message from the customer to the recipient.
7. A method as claimed in claim 6 wherein the message is a text message.
8. A method as claimed in claim 6 wherein the message is an audible message.
9. A method as claimed in claim 6 wherein the electronic certificate is associated with an electronic greeting card.
10. A method as claimed in claim 2 further comprising the steps of:

receiving at an application server a call request as a result of an action by the recipient who activates the icon, the call request including the unique identifier, a calling telephone number, an Internet Protocol (IP) address of the recipient and a telephone number of a party to be called by the recipient;

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verifying the electronic certificate using the unique identifier to locate the information stored in the database; and

sending a call request message to a call control node in a switched telephone network to instruct the call control node to initiate actions in the switched telephone network to establish a telephone connection between the calling telephone number and the called telephone number.

11. A method as claimed in claim 10 wherein messages exchanged via the data network between the recipient and the application server when the icon is activated are encrypted.
12. A method as claimed in claim 10 wherein the call request message sent to the call control node includes the calling and called telephone numbers and a maximum call duration determined using a remaining value of the call credits and the unique identifier.
13. A method as claimed in claim 10 further comprising the steps of:

prior to sending the call request to the call control node, calculating at the application server a maximum call duration for the call requested in accordance with a remaining value of the call credits stored in the database information associated with the unique identifier;

sending from the application server to the recipient a message respecting the maximum call duration using the IP address;

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receiving at the application server from the recipient a confirmation of the call request.

14. A method as claimed in claim 12 further comprising the step of:

reporting from the call control node to the application server an actual call duration after the telephone communication is completed or is terminated by the CCN after the maximum call duration has expired.

15. A method as claimed in claim 14 further comprising the steps of:

receiving at the application server from the call control node via the data network a call duration report associated with the unique identifier;

retrieving at the application server from the database the information associated with the unique identifier;

calculating a charge for the telephone call using the call duration;

deducting the charge from the remaining value of the call credits to yield an updated remaining value; and

storing the updated remaining value of the call credits in the database with the information associated with the unique identifier.

16. A method as claimed in claim 14 wherein the telephone connection is established using common channel signaling messages generated by a call control node

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that is a physical node in a common channel signaling network and a virtual node in facilities used to establish the connection.

17. A method as claimed in claim 16 wherein establishing the telephone connection further comprises the steps of:

generating a first initial address message (IAM) at the call control node and transmitting the first IAM through the common channel signaling network to establish a first connection with the calling party;

receiving at the call control node an indication that the connection with the calling party was established;

generating a second IAM at the call control node and transmitting the second IAM through the common channel signaling network to establish a second connection with the called party;

whereby the first and second IAMs are interrelated to an extent that a circuit identification code in each of the first and second IAMs relate to opposite ends of the same facility.

18. A method of establishing telephone connections in a switched telephone network for a holder of a pre-paid electronic call certificate, comprising the steps of:
- receiving at an application server in a data network a call message generated as a result of an action by the holder of the electronic call certificate,

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the holder having activated an icon associated with the electronic call certificate;

verifying the electronic call certificate using the information in the call request message to query a database of information identifying valid electronic call certificates;

sending a call setup message via the data network to a call control node in the switched telephone network to instruct the call control node to initiate actions in the switched telephone network to establish a telephone connection between a calling party number and a called party number specified in the call request;

tracking a duration of the call at the call control node;

computing a charge for the call connection using the duration of the call; and

deducting the charge from a remaining value of the call credits and storing a remaining value in the database as updated electronic call certificate information.

19. An apparatus for providing electronically mailable call credits, comprising:

an application server adapted to be connected to a data network;

a memory associated with the application server for storing information in a database;

programmed instructions on the application server for accepting from a customer a purchase order of a

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specified purchase value of call credits via the data network;

programmed instructions on the application server for issuing an electronic call certificate for the value of the call credits purchased;

programmed instructions on the application server for storing information related to the electronic call certificate in the database; and

programmed instructions for sending a copy of the electronic call certificate via email to a recipient designated by the customer, the electronic call certificate including at least the value of the call credits purchased and a unique identifier for retrieving the stored information related to the electronic call certificate.

20. An apparatus as claimed in claim 19 wherein the application server comprises programmed instructions for encrypting and decrypting at least part of the messages sent and received.
21. An apparatus as claimed in claim 19 wherein the programmed instructions for accepting the purchase order are adapted to accept a payment from the customer for the purchase order by one of a credit card, debit card and calling card.
22. An apparatus as claimed in claim 21 wherein the programmed instructions for accepting the purchase order are adapted to communicate via the data network with a financial institution which issued the credit

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card, debit card or calling card to obtain an authorization for the purchase order.

23. An apparatus as claimed in claim 19 further comprising a call control node adapted to communicate with the application server and to communicate with switching nodes in a switched telephone network.
24. An apparatus as claimed in claim 23 wherein the call control node is a virtual switching point adapted to function as a node in a common channel signaling network and further adapted to formulate and send common channel signaling messages to control a call connection between the recipient and the called party.
25. An apparatus as claimed in claim 24 wherein the call control node comprises:
- a common channel signaling interface for sending and receiving common channel signaling messages;
  - programmed instructions for examining common channel signaling messages and transparently passing selected common channel signaling messages to an adjacent signaling node;
  - programmed instructions for formulating common channel signaling messages in response to predetermined criteria;
  - a data network interface for sending and receiving data messages; and
  - programmed instructions for tracking individual call sessions virtually switched therethrough.

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26. An apparatus as claimed in claim 25 wherein the call control node is adapted to report a duration of a call associated with the unique identifier to the computer application server.
27. An apparatus as claimed in claim 26 wherein the application server comprises programmed instructions for calculating a charge for a call session.
28. An apparatus as claimed in claim 27 wherein the application server comprises programmed instructions for deducting a charge for a call connection from a stored remaining value of call credits associated with an electronic call certificate.
29. An apparatus as claimed in claim 25 wherein the call control node is adapted to receive from the application server information respecting a maximum call duration and is further adapted to terminate the call connection when the maximum call duration has expired.
30. An apparatus as claimed in claim 23 wherein the call control node further comprises:
- a memory for storing at least one of the common channel signaling messages; and
  - a memory for storing messages received from and to be sent via the data network to the application server.
31. An apparatus as claimed in claim 23 wherein the call control node further comprises programmed

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32. An apparatus as claimed in claim 19 wherein the application server has access to a database of designs which are displayed on demand to the customer, the customer being enabled to create a message or a greeting card into which the electronic certificate is incorporated.

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